How Ymon checks histograms

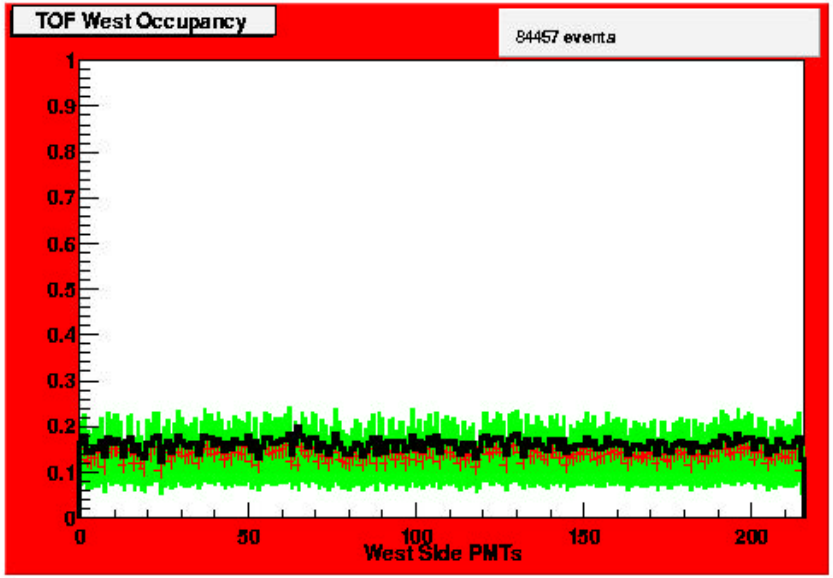
- Implementing automatic checking into YMon
- YMon reads in Reference histograms
  - Each bin contains expected value
    - Errors of each bin define tolerance
  - Checking Frequency of N events defined for each monitor
    - Checking happens only for the last N events
    - Histograms will be reset so they contain the last N to 2N events
  - If a bin is out of tolerance, the background pad turns red

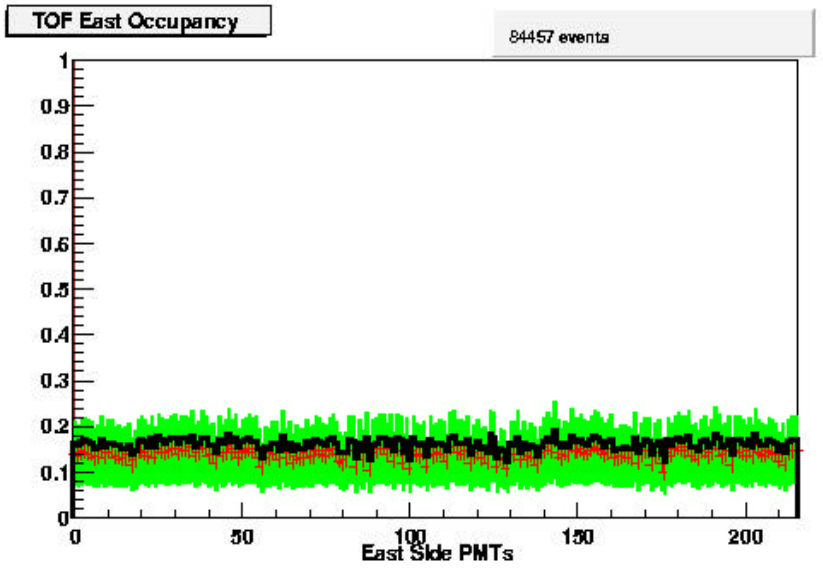
What we are up to

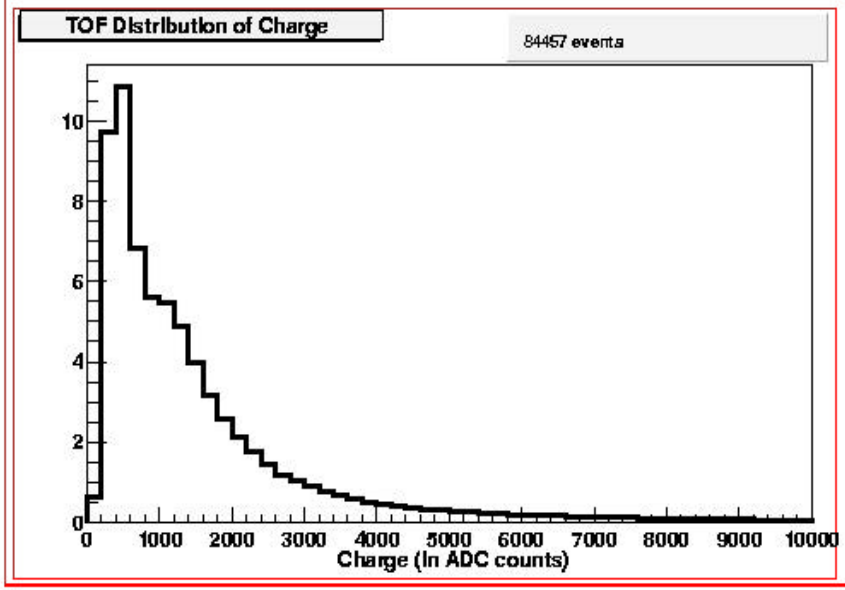
- Our plans:
- Short Term (close to completion)
  - Implement a reference plot from the most recent min bias run for the 1d Occupancy plots.
    - Used run 146768
  - Define tolerance as 0.5 * Occupancy in each bin
  - Check frequency is set to the number of events required so that 0.5*Occupancy is 10 sigma away from the expected value
- After this
  - Communicate changes to detector groups
  - Get feedback, and implement:
  - Send warnings, errors
  - Classifying run as bad/good for detector
  - Checking other histograms
  - Scaling of histograms with luminosity
  - …

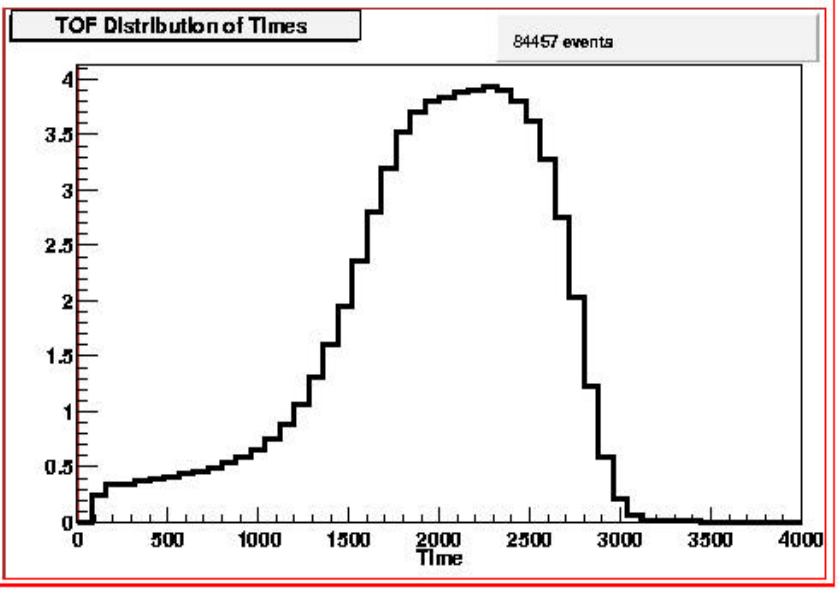
YMon #57 TOF TOF Summary Plots

Run:145429 Event: 0 # of Events:84457 Time: Wed Jun 26 03:28:14 2002









What we need from detector groups

- Good reference files for your detector
  - These will need to be updated as detector status may change
    - Provide us with new YMon output and we will add it to the reference file
- Dead Channel/Hot Channel DB
- Define criteria for checks and giving information to CO
  - Define which histograms need to be checked and how (bin by bin check, KS, ChiSquared)
  - Define tolerance levels for these checks
  - Define statistics required before these checks should be performed
  - What actions should be taken by CO?
    - Page/e-mail expert…
  - Define criteria for classifying run as good or bad
  - Define what should be written to summary file

Current Status for Time of Flight

- Check Frequency :
  - 2300 Events
- Thresholds:
  - CAFE: 100 ADC counts
  - DECAF: 100 ADC counts
- Current “Good Run” Status (for Co’s)
  - High Voltage on
  - Less than 5 bad channels total